

(12) APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Office



(43) International publication date
13 January 2005 (13.01.2005)

PCT

(10) International Publication No.
WO 2005/004252 A2

(51) International Patent Classification⁷: H01L 51/40

(21) International Application No.: PCT/EP2004/007122

(22) International filing date: 30 June 2004 (30.06.2004)

(25) Language of submission: German

(26) Language of publication: German

(30) Priority data:
103 29 654.9 1 July 2003 (01.07.2003) DE

(71) Applicant(s) (for all designated countries except the US): KONARKA TECHNOLOGIES, INC. [US/US]; 100 Foot of John Street, Boott Mill South, Third Floor, Suite 12, Lowell, MA 01852 (US).

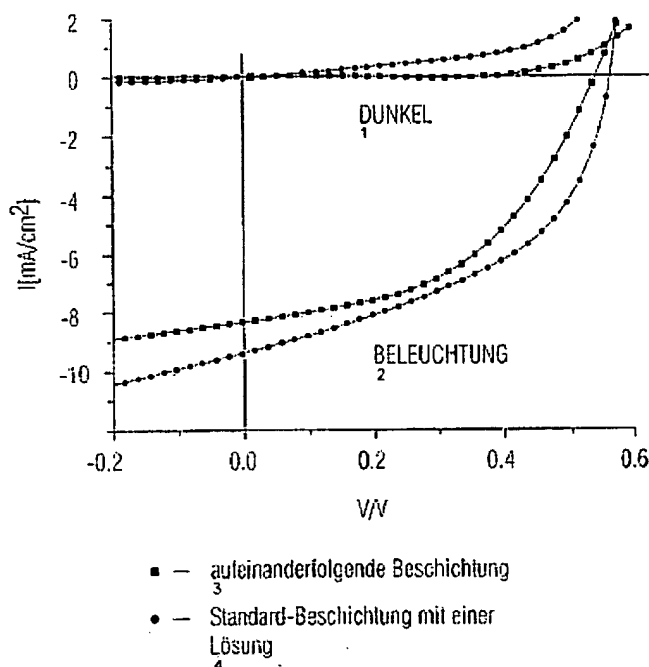
(72) Inventor(s); and

(75) Inventor(s)/applicant(s) (US only): BRABEC, Christoph [AT/DE]; Eichenweg 8, 91054 Erlangen (DE). PAVEL, Schilinsky [DE/DE]; Schorlachstrasse 12, 91058 Erlangen (DE).

(74) Common agent: SIEMENS AKTIENGESELLSCHAFT; Postfach 22 16 34, 80506 Munich (DE).

[Continued on next page]

(54) Title: METHOD FOR THE PRODUCTION OR ORGANIC SOLAR CELLS OR PHOTODETECTORS



1... DARK 3... SUCCESSIVE COATINGS
2... ILLUMINATION 4... STANDARD COATING BY MEANS OF A SOLUTION

(57) Abstract: A method for the production of organic solar cells or photodetectors, particularly based on organic polymers, comprising the following steps: - a first organic n- or p-conductive semiconductor layer is applied to an electrode, - to the solid first organic semiconductor layer is applied a second organic semiconductor layer of the respective other conductivity whose solvent partially dissolves the first organic semiconductor layer, such that the first semiconductor layer mixes with the second semiconductor and forms a bulk heterojunction mixed layer; - a second electrode is applied opposite the first.

WO 2005/004252 A2



(81) **Designated countries** (unless otherwise stated, for each available type of national protective right): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated countries** (unless otherwise stated, for each available type of regional protective right): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD,

SL, SZ, TZ, UG, ZM ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report; to be republished after receipt of report.

For an explanation of the two-letter codes and other abbreviations, see the notes ("Guidance Notes on Codes and Abbreviations") provided at the beginning of each regular edition of the PCT Gazette.